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ARCTIC GOVERNANCE PARADIGM AND THE ROLE OF CHINA*

The changing environment in the Arctic has had great impact on the global ecosystem and socio-economic activities. This paper emphasizes that the multilevel paradigm of Arctic governance is a manifestation of collective action in dealing with common challenges at global level. At the regional level, the Rovaniemi process seeks a common identity from a wide range of actors, encouraging them to provide public goods whilst protecting the exclusiveness of their interests. The Ilulissat process at the sub-regional level is in pursuit of centralizing the cooperation among state actors, facilitating internal consultation over specific disputes and exclusive jurisdictional restriction. This paper also argues that China, as a major stakeholder in Arctic governance, has demonstrated its capacity to improve the governance structure at global, regional and sectorial levels displaying its willingness to become a practitioner of scientific cooperation, a pioneer of ecosystem and environmental protection, a contributor to the development of shipping and a promoter of the development of indigenous communities. Refs 45.

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Arctic issues have widely attracted global attention in recent years, largely due to the increasing ice-melting rate. Natural sciences usually focus on geographical, climatic and ecological issues of the Arctic region, while social scientists discuss the evolution of Arctic governance. In the human history of exploring the Earth's northernmost region, the nature of the Arctic as a subject has constantly varied with the changing environment.

Arctic governance has gradually developed from disorganization to order, demonstrating three steps from competition through dispute, then to cooperation, which is basically served by the development of science and technology, changing ecology as well as the governing policies and strategies of relevant countries. Understanding the Arctic has shifted from a *sensitive topic* during the Cold War era, to a *new platform for multilateral cooperation* today. With the growing number of diversified actors, increasing cross-border challenges and ever more options for cooperation, the international community has been taking strenuous efforts to explore various approaches of Arctic governance so as to resolve disputes, tackle challenges and foster new opportunities.

What does the Arctic mean to us?

First of all, the Arctic is becoming a major victim of climate change. In 2004, the Arctic Council (AC) and the International Arctic Science Committee (IASC) have jointly published a report on *Impacts of a Warming Arctic* under the Arctic climate impact assessment project, which emphasizes that over the past 30 years, the annual average sea-ice extent has decreased by about 8%, or nearly one million square kilometers, an area larger than Norway, Sweden, and Denmark combined, and the melting trend is accelerating [1]. From 1979 to 2012, the Arctic sea-ice extent has declined more dramatically than the

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annual average, with a loss of 3.5–4.1 % of ice coverage per decade [2]. Sea ice is thinner in recent decades, with arctic-wide average thickness reductions estimated at 10–15 %, and with particular areas showing reductions of up to 40 % between the 1960s and late 1990s [1]. According to the latest statistics, the Arctic sea ice extent average for November 2015 was the sixth lowest in the satellite data record, and monthly ice extent in November from 1979 to 2015 shows a decline of 4.7 % per decade [3].

This scientific forecast has reflected two different considerations: Most states believe environmental changes would be a disaster for the world's *North Pure Land*, concerned about the crash of marine ecological systems, others recognize this trend as an opportunity of increased economic activity. Despite its economic potential, significant environmental and infrastructure challenges will constrain resource and transport activities in the Arctic.

Second, the Arctic may become an alternative core corridor of international shipping. It does not only suffer through the process of melting sea-ice, glaciers and permafrost, as well as increased coastal activities [4]. It also has the potential to become a transport corridor with the Northeast Passage (NEP) encompassing the route along the Norwegian and Russian Arctic coasts, and the Northwest Passage (NWP) through the Canadian Archipelago and North of Alaska. The Northern Sea Route (NSR) is a part of the NEP, while their difference is that the NEP comprises the Barents Sea and provides access to the port of Murmansk [5]. NSR is formally defined in Russian law as extending from the Novaya Zhelaniya straits to Cape Dezhnev by the Bering Strait [6]. In the summer of 2008, for the first time in history, two voyages have been completed via both the NSR and the NWP, which focused attention among all major shipping countries.

According to estimated statistics, the sailing distance from port Yokohama of Japan via the NEP to the port of Rotterdam in the Netherlands could be cut more than 4000 nautical miles, 37 % than traditional route of Suez Canal. Voyage from the port of Seattle to the port of Rotterdam via the Northwest Passage saves 2000 nautical miles range and 25 % of the shipping cost as opposed to the traditional route through the Panama Canal [7]. The NSR was frequently used by Soviet shipping companies during Soviet Union times, and the peak of transit and domestic shipping by using NSR was set in 1987 with total 6.7 tons of cargo volume, involving 331 ships over 1306 voyages. Together with the dissolution of the USSR, the demands for using the NSR were sharply reduced and total cargo volume in 2000 was only 1.5 million tones. Statistics shows that the NSR has been used from four transits in 2010 with traffic increased to 71 in 2013. Cargo volumes also grew from 2010 to 2013 and fell slightly in 2013. But it is worth noting that most of commercial transits cannot be recognized as international transits, since the origin and destination ports may be all Russian. In 2013, 28 transits were reported between Russian ports from total 71 transits, 19 of them were full trans-Arctic voyages completely traversing the Arctic [8]. With unprecedented climate-driven loss of sea ice over last 35 years and growing international trade supported by the rise of Asian economics, Arctic shipping shows more promise of being navigable. Further development of port infrastructure will enable the NEP to become a seasonal shipping route or even an alternative corridor of Suez Canal.

Finally, the Arctic has become a potential exploitation area of hydrocarbons. In 1962, huge oil and gas fields were discovered in Tazovskiy district of Soviet Union, which became a milestone of natural resource development in the Arctic. In 2008, United States Geological Survey published the *Arctic resource assessment: Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*, which estimates

the total undiscovered oil and gas resources in the Arctic Circle. The sum of the mean estimates for each province indicates that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain to be found in the Arctic, of which approximately 84 percent is expected to occur in offshore areas [9]. This survey estimates that 22 percent of the world's oil and natural gas could be located beneath the Arctic, Russia's vast energy resources account for 52 % of the Arctic totals and Norway 12 % of that [9]. According to report of Russian Academy of Science, Russia's undiscovered petroleum is estimated between 142 tons of oil equivalent (BTOE) [10]. As of 2013, Russia exported 88 % of crude oil via pipelines, with a large majority of natural gas also transported in that manner. 76 % percent of natural gas and 79 % of oil were exported to Europe, with China and Japan as second largest oil and natural gas customers, respectively. Russia continued to expand both its pipeline networks and its seaborne capacity, with absolute maritime transportation of petroleum growing but remaining a small portion of the overall exports [11]. Norway, which has been extracting petroleum in the North Sea since the 1970s, expected new discoveries in the Barents Sea in the 2010s [12]. Apparently, the economy of the region is based largely on natural resources, from oil, gas and metal ores to fish, reindeer, whales, seals and birds. In recent decades, tourism has been added as a growing sector to the economies of many communities and regions of the Arctic.

Arctic governance: a Multilevel governance paradigm

In political sciences, governance represents a process of interaction between different public and private actors, political actors and the growing interdependence between them as the interaction between societies and institutions become ever more complex and diverse [13]. Since the beginning of the twenty-first century, globalization has exacerbated the need for normative understanding of governance, as Robert Keohane has noted, interdependence and the lack of governance, when combined, make a deadly mixture [14], especially the disjuncture that exists between emerging global cross-border issues and governance structures. Richard Higgott indicates that globalization has become the principal metaphor around which political contest over the governance of the modern world order is being conducted [15]. Governance, under conditions of globalization, is no longer something to be researched in separate contexts, with the boundary of the state determining the location at which policy issues are addressed. In addition, the importance of the link between normative and practical questions in relation to multi-level governance continues to grow. In this case, the Arctic governance in the context of climate change, globalization, formulates a multilevel paradigm includes global, regional and sub-regional elements of governance.

Global level: common challenge formulated collective action

Global governance is defined by scholars as the complex of formal and informal institutions, mechanisms, relationships, and processes between and among states, markets, citizens and organizations, both inter- and non-governmental, through which collective interests on the global plane are articulated, right and obligations are established, and differences are mediated [16]. In contrast to the traditional meaning of *governance*, some

authors like James Rosenau have used the term *global governance* to denote the regulation of interdependent relations in the absence of an overarching political authority [17].

At a global level, governance might be seen as an approach in which individuals and institutions are attempting to accommodate conflicting interests through processes of collective action decision making in a range of areas operating usually beyond state borders. Under the scope of Arctic governance at the global level, collective actions require governmental involvement on most common challenges like climate change, which should also include other channels of communication and especially other prominent and emerging non-state actors at a global level such as local or international enterprises in the fishery sector, banks and financial institutions on development of shipping and natural resources exploitation, as well as civil society such as NGOs, scientific forums and scientific groups which generate trans-national mechanisms of governance and networks across the range of functional policy domains [18–19].

Pluralistic actors of Arctic governance at the global level have a diversified structure, including both state and non-state actors such as a horizontal structure, central government, local government and self-governed indigenous people as a longitudinal structure, also including countries within and without the Arctic region, members and non-members of international organizations as a composite structure. It is noteworthy that within the dual structure of state and non-state actors, how to define the scope of related states is particularly important. For example, the constituent elements of the Arctic are the Arctic Ocean, issues related with marine resources and the environment which can be applied to the jurisdiction of UNCLOS. Theoretically speaking, all signatory parties of the convention may also be considered as actors of Arctic governance at the global level, but only on such issues without geographical or jurisdictional characteristics such as acidification of the Arctic Ocean, protection of biodiversity and maritime ecosystem, prevention of maritime pollution, etc., the common challenges of the above-mentioned issues stimulate collective action for all types of actors.

The Rovaniemi process: public goods-oriented multilateral interaction

At the regional level, governance is based on institutions, its process of consultations within the institutional framework, which has significant regional features [20]. Scholars have long argued that one common feature provides a way to increase cooperation on regional public goods by increasing participation in regional institutions, building consensus, and deterring free-riders. The Arctic exhibits certain common features such that any single issue can be affected by other sectors and blur the border between topics that follow general criteria, such as protecting the Arctic maritime ecosystem, reducing Arctic pollution, animal and plant protection, etc. The performance of regional governance depends on the ability and willingness of actors in contribution to the public good, through design of a multilateral, multidimensional and multi-sectorial cooperative institutions. In this regard, various institutions such as AC, the Barents Euro-Arctic Council, the Nordic Council, the Nordic Council of Ministers have been designed to promote common identity and exclusive interests, to ensure that actors are willing to use their resources and provide public goods in concern.

The Rovaniemi process is originated from the Arctic Environmental Protection Strategy in 1991, which initiated cooperation on environmental protection in the Arctic.

Signatory states of this document are committed to contribute in sharing of pollution data, control and respond to external inputs of pollution, and deepen cooperation in environmental protection [21]. On the institutional building level, AC as a core achievement has been established in 1996 with several working groups within this regular meeting mechanism.

In terms of formulating common identity, AC has accepted a wide range of actors including Arctic states, non-arctic states, indigenous groups and other intergovernmental institutions. Like all other similar regional governance mechanisms with growing numbers of participants, together with increased resources of public goods providers, the efficiency of decision making and policy implementation faces more difficulties. Thus, the Rovaniemi process has also created various *codes of conduct* between different actors, such as recognition of sovereignty, sovereign rights and jurisdiction of Arctic states in the Arctic; recognition of existing legal frameworks like UNCLOS, which provides a solid foundation for responsible management of the Arctic ocean; respect of the values, interests, culture and traditions of Arctic indigenous peoples and other Arctic inhabitants. The AC's observers are encouraged to demonstrate a political willingness as well as financial ability to contribute in the work of the Permanent Participants (PPs) and other Arctic indigenous peoples. Observers are welcomed to support the work of the AC through partnerships with member states and by bringing Arctic concerns to global decision-making bodies. With the contribution of multilateral interaction between actors, the *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* as a first public good result was passed during the Nuuk meeting held in 2011, which was the first legal-binding agreement since the founding of AC [22].

In terms of protecting the exclusiveness of interests, the scope of access and responsibility for observers is defined with restriction. In *Nuuk Declaration* [23] and *Annexes to the SAO Report* [24] issued by AC in 2011 during the Arctic Senior Arctic Officials meeting, as actors with limited access, observers could express their willingness only through member states, without any *right of veto* on any specific topic. Decisions at all levels in the Arctic Council are the exclusive right and responsibility of the eight Arctic States with the involvement of the Permanent Participants. All decisions are taken by consensus of the Arctic States. The primary role of observers is to observe the work of the Arctic Council. Furthermore, observers are encouraged to continue to make relevant contributions through their engagement primarily at the level of working groups [25]. The Rovaniemi process clarifies the relations between Arctic states and other countries as actors with limited access, specifies the standards, methods and paths of introducing external influence, for conservation of exclusiveness of rights.

In order to improve the sufficiency of projects under the AC, actors with limited access are welcomed through various working groups of the AC to make financial support for research or other projects. It is worth-noting that the amount of funding activities has to be less than the contribution of actors with full access. Actors with limited access are required to get approval of the member states with a rotating presidency, before submitting a written or oral opinion on related issues, and these opinions must be expressed after actors with full access [25]. By admitting actors with limited access participation in this way, the AC has reached its dual goals of restriction and exploitation, and effectively enhanced the importance of the Arctic in the global politics.

On sub-regional Arctic governance, state actors play a dominant role within the geographic-based institutions, emphasizing the traditional model of governance with the jurisdictional features. As a typical example, the Ilulissat process was initiated from a Ministerial meeting of five Arctic coastal states in 2008. At that meeting, states discussed issues related to climate change, the marine environment, safety of navigation, among others. In the Ilulissat Declaration signed at the end of the meeting, all five countries declared that there is no need to develop a new comprehensive international legal regime to govern the Arctic Ocean [26]. Coastal states are committed to settle possible conflicts under the legal framework of UNCLOS.

Although this meeting mainly focused on legal system and jurisdiction on Arctic Ocean as Coastal states have claimed, no other Arctic states including Iceland, Finland, Sweden, as well as indigenous peoples' organizations were not invited to participate. Topics discussed in the meeting are not confined in the rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, freedom of navigation, marine scientific research, and use of maritime resources in the Arctic Ocean are also included, which closely connected with interests of all countries, who has the ability of international shipping, fishing and scientific research.

Despite a wide range of common interests among Arctic states, there still exists potential or even ongoing competing elements over agenda-setting caused by unbalanced power and ability. For actors such as Denmark and Norway, the disadvantage of comprehensive national power produces a huge willingness though bilateral cooperation with other Arctic states or even stakeholders from external regions, using external power to maintain strategic balance with big players like Canada, Russia and United States. Under the sub-regional Arctic governance, non-coastal states like Iceland, Finland and Sweden are also in inferior positions compared with coastal states, seeking approaches for balance of power via cooperation with *outsiders*. The successful launch of the first round of bilateral dialogue on Arctic issue between China and Iceland in November 2015 [27] was a typical example of this trend. Iceland's president has called for an expanded role for China and other Asian countries in the future of the Arctic, arguing that the rapid melting of the summer sea ice was having effects far beyond the region [28]. The Ilulissat process seeks to establish a governance mechanism with qualified actors, centralizing the cooperation among state actors, facilitating internal consultation over specific maritime delimitation disputes and exclusive jurisdictional restriction for other participants from external region.

China's role: a multilevel stakeholder in the Arctic governance

Unfortunately, as a country with one-fifth of the world's population and one of the largest consumers of oil and natural gas products, every step made by China regarding Arctic has been recognized as challenge to others. The *China threat* has become a hot topic in media highlights [29] while a lot of unofficial arguments of scholars about China's Arctic involvement are misinterpreted [30]. In fact, the changing natural environment and resource exploration of the Arctic have a direct impact on China's climate, environment, agriculture, shipping, trade as well as social and economic development. China is a multilevel stakeholder in the Arctic.

At the global level, a multilevel stakeholder should be assumed with big power responsibility in the international organizations like the United Nations to contribute to the Arctic environment governance and ecologic protection. The importance of environmental protection should be insisted and any exploration at the cost of the environment should be opposed. In practice, as a global economic power, a Permanent Member of the UN Security Council, a signatory to the UNCLOS and an important constructor of many international regimes of environment protection, China is playing a leading and coordinating role in issues of peace-keeping, rationally handling the contradiction between state sovereignty and the common heritage of mankind, balancing between interests of the Arctic countries and those of the non-Arctic countries, and protecting the fragile Arctic environment and the common home of mankind. In fact, Arctic governance includes not only *high-politics*, but also low-politicized agenda such as climate change and environmental protection, which requires the provision of public goods and contributions made by competent actors.

At the regional level, a multilevel stakeholder should play a positive role in Arctic regional organizations, strengthen ties and communication with governance organizations such as the AC, and highlight the necessity of the outsider countries' participation. In practice, China has been an active player in Arctic scientific research and cooperation. Chinese experts have also been active in the research projects of several working groups under the AC. The international scientific community regards China's polar-scientists as an important contingent in addressing persistent questions of polar science. Since Arctic governance needs a system involving land, marine, sky and space technologies to monitor and prevent disaster outbreak, China is precisely one of the very few countries equipped with the technology systems and the conditions and capabilities to provide Arctic R&D and economic activities with the public goods [31].

At the sectorial level, a multilevel stakeholder should also increase its vigor of participation in domains and functional issues of navigation, resource exploration and others, in order to allow the future mechanisms and arrangements take global interests into account. Development of new shipping routes brings new opportunities for Chinese trade and shipping. China has been involved in formulating the Polar Code by the International Maritime Organization (IMO) in a constructive manner. Chinese merchant ships are exploring the possibility of sailing the Arctic sea routes [32].

Moreover, a multilevel stakeholder can provide public goods necessary for the Arctic governance, which can play a direct role in fulfilling tasks of governance. As the largest developing country, Chinese issues are closely related to the process of globalization itself. Economic exploitation of the Arctic region will facilitate the formation of an industry chain and a profit chain and Arctic environmental protection will form a responsibility chain and a contribution chain going beyond the Arctic region. China is highly valued by some Arctic countries for its funds, market, and strength in infrastructure construction and resource exploitation. However, 88–95 % of resources in the Arctic fall within one of the five Arctic Ocean coastal states' Exclusive Economic Zones (EEZ's) and China has never challenged that provision within UNCLOS. China has only a few businesses joining relevant programs of economic development or natural resources exploitation through partnership with companies of Arctic states. For example, the Yamal liquid natural gas (LNG) project is a typical model of China's involvement into Arctic resource exploitation. In November 2008, Gazprom announced that it has prepared a list of potential partners for the LNG plant of the Yamal project. The project proposed a LNG plant at Sabetta,

north-east of the Yamal Peninsula of Russia [33], which is expected to cost US\$27 billion [34]. The planned LNG plant will have three trains with total capacity of 16.5 million tonnes of liquefied natural gas per year [33]. The first train will be operational by the end of 2017 and the full capacity will be achieved by 2021 [35]. Although one of the biggest Chinese state-owned companies, China National Petroleum Corporation (CNPC), was involved into this project, Russia's largest independent natural gas producer Novatek still owns 50.1 % stake of this project, the French company Total S.A. and CNPC own 20 % respectively, China's Silk Road Fund has also signed agreement to purchase a 9.9 % stake [36]. In fact, China is not a major performer of this big project with its space of activity controlled by major investors.

China's self-conception: a constructive partner in cooperation

Although the official Arctic policy or strategy of China has not been published yet, statements from high level governmental representatives are rather clear. The Arctic's clear territorial jurisdiction and legal status is totally different from those of the Antarctic. Therefore, China will in no way attempt to apply the Antarctic Treaty to the Arctic or establish any new legal mechanism, taking national sovereignty in the Arctic as the primary legal basis for dealing with Arctic affairs [37]. China holds that the AC is one of the most influential regional inter-governmental organizations dealing with Arctic affairs, which has played an important role in coordinating Arctic scientific research, promoting cooperation on Arctic environmental protection and sustainable development [38]. China has also proposed six specific policies with regard to Arctic affairs, including further exploration and understanding of the Arctic, protection and proper utilization of the Arctic, respecting the inherent rights of Arctic countries and the indigenous people, valuing the rights of non-Arctic countries and the overall interests of the international community, building a multi-tiered Arctic cooperation framework for win-win results, and upholding the Arctic governance system based on existing international law [39]. In particular, China's role within the current Arctic governance structure can be divided into four dimensions.

In the first place, China is a *practitioner* of Arctic scientific cooperation. China has started its own Arctic activity from scientific exploitation since the 1920s. In 1925, China acceded to the Svalbard Treaty, which marked the beginning of China's participation in Arctic affairs. Since the 1990s, China's involvement in Arctic activities has mainly focused on scientific research. China has successfully conducted six scientific expeditions [40] and set up the Arctic Yellow River Station, thus establishing a basic Arctic observation system. China has joined the IASC in 1996, and its experts have been active in the research projects of several working groups under the Arctic Council.

Second, China is a *pioneer* of the Arctic ecosystem and environmental protection. As the biggest developing country, China actively participated in the global process on climate change, making itself the first developing country to issue National Climate Change Program. Also, China has joined UNFCCC, Convention on Biological Diversity and other international conventions which associated with ecological and environmental protection of the Arctic. China can contribute to Arctic environmental protection by reducing its gas emissions. In fact, China in 2014 spent around \$115 billion on solar and wind power and other forms of renewable energy, putting it far ahead of the European

Union and the United States for investment [41]. China aims to cut its greenhouse gas emissions per unit of gross domestic product by 60–65 % from 2005 levels under a plan submitted to the United Nations ahead of COP21: UN climate change conference held in Paris last year [42].

Third, China is a *contributor* of Arctic shipping development. As the biggest trade partner and a potential user of shipping routes, China has been involved in formulating the Polar Code by the IMO in a constructive manner. As shallow waters limit vessel size and ice movements lead to unpredictability of shipping lanes, the NEP is a less reliable seasonal alternative to the Suez Canal, especially for container transport, but it still makes up great short-term potential [43]. Chinese merchant ships are exploring the possibility of taking the Arctic sea routes, China Ocean Shipping (Group) Company (COSCO) is actively studying the feasibility of operating regular services on the northern route [44], mature external trade market of China will drive Arctic shipping development, leading to a growth of destination shipping traffic along the NEP.

Fourth, China is a *promoter* of indigenous community development. A multilevel stakeholder should pay great attention on the social responsibility of a cooperator in the region while conducting economic, scientific and technical cooperation with Arctic countries, demonstrating humanitarian concerns and environmental concerns in host countries to its investment and cooperation. China has paid great attention to the development of the indigenous peoples of Arctic. In 2013, China hosted the fifth World Reindeer Herders Congress, seeking through appropriate programs to provide financial support to support the capacity building in the indigenous people.

Conclusion

Arctic governance focuses on interaction between multi-actors, and a multilevel governance paradigm performs collective actions in dealing with common challenges at global level. The AC as a major institution of the Rovaniemi process at the regional level is seeking for common identity from a wide range of actors. Arctic states, non-Arctic states, indigenous groups and other intergovernmental institutions are encouraged to provide public goods under different working groups and research programs within the AC, while protecting exclusiveness of interests by limiting the scope of access and responsibility for observers. At the sub-regional level, the Ilulissat process is seeking to centralize cooperation among state actors, facilitating internal consultation over specific maritime delimitation disputes and exclusive jurisdictional restriction for other participants from external region.

Although misconceptions about China's intention in Arctic governance are still popular worldwide, China's role has already been implanted in all governance levels, from big power responsibility in international organizations to contribute to the Arctic environment governance, combating climate change and enhancing ecologic protection at global level, assuming a positive role in the Arctic regional organizations, to strengthening ties and communication with governance organizations such as the AC at regional level, also from a major participant of rule-setting process of Arctic shipping to a provider of funds and market for resource exploitation and development of indigenous people.

The future of the Arctic concerns not only the well-being of the Arctic countries and people, but also the overall interests of the entire international community. In this

increasingly globalized world, it is all the more important for parties to jointly explore, understand and utilize the Arctic. With further deepening of the impact of climate change, development of globalization and scientific and technological progress, a certain lag of demands and institutional difficulties of governance paradigm is becoming the most urgent problem. The necessity of updating the flexibility and adaptability of the Arctic governance paradigm from all levels will be the top priority for future development of the Arctic.

A unified approach to Arctic issues has not been identified. Whether in a global context or in the circle of Arctic states, scholars have not reached a consensus on basic principle, forms, channels and shares of Arctic governance, the path of governance is still in the discussion with a variety of different options [45]. Meanwhile, in addition to dialogue and cooperation between developing and developed countries, between Arctic and Non-arctic countries, disagreements still exist on the establishment of the mechanism, distribution of responsibility and transfer of interests. With deepening cooperation in the Arctic, concepts and values will gradually find consensus based on common needs among multiple actors. A developing, diversified governance mechanism and options are promoting progressive development of regional governance to more opened multilateral governance.

References

1. *Arctic Climate Impact Assessment, Impacts of a Warming Arctic, Synthesis Report*. Cambridge, Cambridge University Press, 2004.
2. *Intergovernmental Panel on Climate Change, Climate Change 2013: The Physical Science Basis, 2014*. Available at: <https://www.ipcc.ch/report/ar5/wg1/> (accessed 10.03.2015).
3. *National Snow and Ice Data Center, Arctic Sea Ice Extent 2015*. Available at: <http://nsidc.org/arcticseaicenews/> (accessed 10.11.2015).
4. Brigham, L. W. Thinking about the Arctic's Future: Scenarios for 2040. *The Futurist*. September–October 2007, pp. 27–28.
5. Østreng, W. Eger et al. *Shipping in Arctic Waters: A Comparison of the Northeast, Northwest and Trans Polar Passages*. Berlin, Germany, Springer, 2013, p. 35.
6. Solski, J. New developments in Russian regulation of navigation on the Northern sea route. *Arctic Review on Law and Politics*, 2013, vol. 1, pp. 90–120.
7. *U.S. Arctic Research Commission and International Arctic Science Committee, Arctic Marine Transport Workshop, 2004*. Available at: http://www.arctic.gov/publications/other/arctic_marine_transport.pdf (accessed 10.08.2014).
8. *Northern Sea Route Information Office*. Available at: <http://www.arctic-lia.com/> (accessed 11.05.2014).
9. *U.S. Department of Energy, Energy Information Administration, Arctic Oil and Natural Gas Potential, Report, October 2009*. Available at: <http://pubs.usgs.gov/fs/2008/3049/> (accessed 11.05.2014).
10. Efimov, Y., Zolotukhin et al. Cluster development of The Barents and Kara Seas HC Mega Basins from the Novaya Zemlya Archipelago. *OTC Arctic Technology Conference*, 2014.
11. *EIA, World energy demand and economic outlook, U.S. Energy Information Administration*. Available at: <http://www.eia.gov/forecasts/ieo/world.cfm> (accessed 09.06.2015).
12. *Norwegian Petroleum Directorate, Ministry of Petroleum and Energy, FACTS — The Norwegian Petroleum Sector 2011*. Available at: <http://www.npd.no/en/Publications/Facts/Facts-2011> (accessed 21.10.2014).
13. Kooiman J. *Governing as Governance*. London, Sage, 2003, pp. 54–55.
14. Keohane O., Robert. Governance in a Partially Globalised World. *American Political Science Review*, 2001, vol. 95 (1), pp. 1–13.
15. Higgott R. Contested Globalization: The Changing Context and Normative Challenges. *Review of International Studies*, 2000, vol. 26 (5), pp. 131–154.
16. Thakur Ramesh, Van Langenhove, Luc. Enhancing Global Governance through Regional Integration. *Global Governance*. 2006, vol. 12 (3), pp. 233–240.

17. Rosenau N. J. *Toward an Ontology for Global Governance*. Eds M. Hewson, T. Sinclair. Approaches to Global Governance Theory, SUNY Press, Albany, 1999, pp. 53–60.
18. Hall B., Rodney and Biersteker, J., Thomas. *The Emergence of Private Authority in Global Governance*. Cambridge, Cambridge University Press, 2002, pp. 3–22.
19. Scholte J., Aart, Globalisation: A Critical Introduction, Basingstoke: Palgrave. 2nd ed., 2005, pp. 28–30.
20. Mansfield Edward, Solingen Etel. Regionalism. *Annual Review of Political Science*, 2010, vol. 13 (1), pp. 145–163.
21. *Declaration On The Protection of Arctic Environment*. Available at: http://iea.uoregon.edu/pages/view_treaty.php?t=1991-DeclarationProtectionArcticEnvironment.EN.txt&par=view_treaty_html (accessed 10.11.2014).
22. *Arctic Council, Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*, 2011. Available at: <https://oaarchive.arctic-council.org/handle/11374/531> (accessed 10.11.2015).
23. *Arctic Council, Nuuk Declaration. On the occasion of the Seventh Ministerial Meeting, 12 May 2011, Nuuk*. Available at: http://library.arcticportal.org/1254/1/Nuuk_Declaration_FINAL.pdf. (accessed 10.11.2014).
24. *The Arctic Council, Senior Arctic Officials (SAO) Report to Ministers, 12 May 2011, Nuuk*. Available at: http://library.arcticportal.org/1251/1/SAO_Report_to_Ministers_-_Nuuk_Ministerial_Meeting_May_2011.pdf. (accessed 10.11.2014).
25. *Arctic Council, Observer Manual for Subsidiary Bodies / Document of Kiruna Ministerial Meeting*, 2013. Available at: <http://www.arctic-council.org/index.php/en/document-archive/category/425-main-documents-from-kiruna-ministerial-meeting> (accessed 10.11.2015).
26. *Arctic Ocean Conference, The Ilulissat Declaration. Ilulissat, Greenland, May 27–29, 2008*. Available at: http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf (accessed 10.11.2014).
27. *Ministry of Foreign Affairs of China, Zhang Ming, Deputy Minister attended the third Arctic Circle Assembly and delivered a keynote speech (in Chinese)*. Available at: http://www.fmprc.gov.cn/web/wjbxw_673019/t1306849.shtml (accessed 10.12.2015).
28. *The Guardian, China should have a say in the future of Arctic-Iceland President*. Available at: <http://www.theguardian.com/environment/2013/apr/16/china-future-arctic-iceland> (accessed 10.11.2014).
29. Snow dragons: As the Arctic melts, Asia shudders at the risks but slavers at the opportunities. *The Economist*, 1 September 2012. Available at: <http://www.economist.com/node/21561891> (accessed 10.05.2014).
30. Jakobson L. China prepares for an ice-free Arctic. *SIPRI Insight on Peace and Security*. March 2010. Available at: <http://books.sipri.org/files/insight/SIPRIInsight1002.pdf> (accessed 10.06.2014).
31. Yang J. The Arctic Governance, Extra-regional Factors and China's Arctic Policy. *Global Review*, Winter 2013, pp. 23–27.
32. Anderson B. Yong Sheng: Why Arctic voyage of Chinese cargo ship is business as usual. *Arctic Newswire*, September, 2013. Available at: <http://www.adn.com/article/20130901/yong-sheng-why-arctic-voyage-chinese-cargo-ship-business-usual> (accessed 10.05.2014).
33. Griffin Rosemary. *Technip, JGC win tender to build Russian Yamal LNG plant, Platts*. Available at: <http://www.platts.com/latest-news/natural-gas/Moscow/Technip-JGC-win-tender-to-build-Russian-Yamal-21890981> (accessed 25.07.2015).
34. Belsinski S. Putin May Have Last Laugh Over Western Sanctions. *Oilprice.com*. Available at: <http://oilprice.com/Energy/Energy-General/Putin-May-Have-Last-Laugh-Over-Western-Sanctions.html> (accessed 06.03.2016).
35. Staalesen Atle. Partners raise bets in Yamal LNG. *Barents Observer*. Available at: <http://barentsobserver.com/en/energy/2015/02/partners-raise-bets-yamal-lng-11-02> (accessed 06.03.2016).
36. Kobzeva O., Golubkova E. Russia's Sberbank says to decide on Yamal LNG financing terms by month-end. *Reuters*. Available at: <http://uk.reuters.com/article/2015/09/08/russia-yamal-lng-china-idUSL5N11E38620150908> (accessed 27.02.2016).
37. Liu, Z. M. Assistant Minister of Ministry of Foreign Affairs of China, China's view on the Arctic. *Presentation at High North Study Tour*, 2010.
38. Hu Z. Y. Assistant Minister of Ministry of Foreign Affairs of China, China's view on the Arctic. *Presentation at High North Study Tour*, 2 July, 2009.
39. Zhang M. Vice minister of Ministry of Foreign Affairs of China, China in the Arctic: Practices and Policies. *Keynote Speech at the Country Session of the Third Arctic Circle Assembly*, 17.10.2015.
40. Chinese icebreaker heads for 6th Arctic expedition. *China Daily, Xinhua News Agency*, 7 November 2014. Available at: http://www.chinadaily.com.cn/china/2014-07/11/content_17734743.htm (accessed 10.10.2015).

41. Birties B. China to stake leadership claim on climate change, emissions reduction at Paris UN conference. *ABC News*, 29.11.2015. Available at: <http://www.abc.net.au/news/2015-11-29/china-stakes-leadership-claim-to-combat-climate-change/6983650> (accessed 20.03.2016).
42. Duggan J. China makes carbon pledge ahead of Paris climate change summit. *The Guardian*. 30.06.2015. Available at: <http://www.theguardian.com/environment/2015/jun/30/china-carbon-emissions-2030-premier-li-keqiang-un-paris-climate-change-summit> (accessed 20.03.2016).
43. Farre B., Albert et al. Commercial Arctic Shipping through the Northeast Passage: routes, resources, governance, technology, and infrastructure. *Polar Geography*, 2014, vol. 37 (4), pp. 298–324.
44. Paris Costas and Chiu Joanne, Chinese Shipping Group Cosco Planning Regular Trans-Arctic Sailings. *The Wall Street Journal*, 29.10.2015. Available at: <http://www.wsj.com/articles/chinese-shipper-cosco-to-schedule-regular-trans-arctic-sailings-1446133485> (accessed 20.03.2016).
45. Young O. *Creating Regimes: Arctic Accords and International Governance*. Ithaca, London, Cornell University Press, 1998, pp. 72–76.

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